

Hypothesis Concerning Performance Benefits of Music During Aerobic Exercise

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The current conventional wisdom concerning the documented performance benefit to listening to music during exercise attributes this benefit to supposed analgesic effects associated with the release of endorphins. This notion should be re-evaluated at this time.

Human breathing patterns are affected by attempts made to speak, sing, or hum. There is a natural tendency for a person who is exercising to fill the empty air with sound in order to alleviate boredom, but to do so, under the condition of aerobic stress, would be to disrupt the optimal breathing pattern desired for high-performance aerobic exercise.

The performance benefit associated with music-listening could be more rightly attributed two other factors which this author would suggest play a more significant role in the performance enhancement associated with listening to music during exercise. The most significant is the effect of hearing music on breathing.

When the brain recognizes music or any audio input, including person speaking (excepting the case that the speech is interrogative in nature and therefore demanding of a response,) this has the effect of suppressing the natural tendency to speak, hum, sing or whistle. The brain will subconsciously suppress tendencies toward spontaneous speech if it knows there is some input to which to listen (as speaking would interfere with being able to hear.) Music-listening, therefore, preserves the optimal natural breathing pattern by preventing off-rhythm breathing patterns generated as a result of efforts to speak or sing.

In addition, listening to music provides a metronome that helps the brain to more accurately perceive time. Although breathing under normal conditions is autonomic, structured breathing is at least partially non-autonomic and therefore requires deliberate override by the conscious mind (just as holding one's breath requires a conscious override of autonomic function.) This override is dependent upon our sense of time. An accurate perception of time is also necessary for the timing of the human stride, which must be timed precisely and consistently in order to ensure economy of motion.

Endorphins have remarkably little analgesic effect despite a large quantity of literature which suggests otherwise. The current consensus concerning this topic should be re-evaluated in light of this new hypothesis.